

WHAT IS CLAIMED IS:

1. An imaging element comprising a support, an imaging layer, and at least one layer comprising a clay nanocomposite wherein said nanocomposite comprises a splayant and at least one natural clay particle having an aspect ratio of from 20:1 to 500:1.
2. The imaging element of claim 1, wherein said at least one layer comprises an outermost layer.
3. The imaging element of Claim 2 wherein said at least one outermost layer comprises a protective overcoat layer.
4. The imaging element of Claim 1 wherein said imaging layer is between said support and said at least one layer.
5. The imaging element of Claim 1 wherein said at least one layer is on the side opposite the imaging layer and the thickness of the said layer is from 8 to 50 microns.
6. The imaging element of Claim 1 wherein said splayant comprises an organic splayant.
7. The imaging element of Claim 6 wherein said organic intercalant comprises a hydrophillic colloid.
8. The imaging element of Claim 6 wherein said organic splayant comprises polyvinyl alcohol (PVA), polyvinyl pyrrolidone (PVP), polyethylene oxide (PEO), polyether block polyamide copolymers, hydrophilic colloids, such as gelatin, and poly(carboxylic acids), a poly(sulfonic acid), poly(acrylamides), quaternized polymers and mixtures thereof.

9. The imaging element of Claim 1 wherein said natural clay particle is intercalated by said splayant.

10. The imaging element of Claim 1 wherein said natural clay particle is exfoliated by said splayant.

11. The imaging element of Claim 1 wherein said natural clay particle comprises montmorillonite.

12. The imaging element of Claim 1 wherein said natural clay particle comprises an aspect ratio from 100:1 to 400:1.

13. The imaging element of claim 1 wherein said natural clay particle comprises from 2 to 20 percent weight percent of said at least one layer.

14. The imaging element of Claim 1 wherein said natural clay particle comprises from 2 to 10 parts by weight of said at least one layer.

15. The imaging element of Claim 1 wherein said natural clay particle has a length greater than 0 and less than or equal to 700 nm (0.7 μ m).

16. The imaging element of Claim 1 wherein said imaging element comprises a photographic imaging element.

17. The imaging element of Claim 1 wherein said imaging element comprises a thermographic imaging element.

18. The imaging element of claim 1, wherein said support is selected from the group consisting of cellulose nitrate films, cellulose acetate films, poly(vinyl acetal) films, polystyrene films, poly(ethylene terephthalate)

films, poly(ethylene naphthalate) films, polycarbonate films, glass, metals, papers and polymer-coated paper.

19. The imaging element of claim 1 wherein said at least one layer further comprises crosslinking agents, surfactants, thickeners, coalescing aids, particle dyes, matte beads and lubricants.

20. The imaging element of claim 1 wherein said at least one layer has a dry weight coverage of from 10 mg/m^2 to $10,000 \text{ mg/m}^2$

21. The imaging element of claim 1 wherein said at least one layer has a dry weight coverage of from 200 to 2000 mg/m^2 .

22. The imaging element of claim 1 wherein the Young's modulus of said support enhanced by at least 10%.

23. The imaging element of claim 1 wherein the Young's modulus of said support is enhanced by at least 20%.